

ERC Team

Meeting Minutes

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SUBJECT GW/VZ REGULATORY FRAMEWORK MEETING - FEBRUARY 9, 1999

TO Distribution

FROM Michael J. Graham, GW/VZ Integration Project Manager

DATE February 12, 1999

ATTENDEES

See Below

DISTRIBUTION

Attendees
GW/VZ Integration Project Distribution List
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A meeting on the above subject was held on February 9, 1999, in Richland, Washington, at 3350 George Washington Way, BHI Assembly Room.

Attached are notes from the Groundwater/Vadose Zone (GW/VZ) Integration Project Regulatory Framework Meeting, which include the original agenda, viewgraphs, and input gathered in the meeting.

We will discuss the details of our path forward on Tuesday, February 16, 1999, in both our Policy Work Group Meeting (11:30 a.m. in Richland Washington, at 3350 George Washington Way, BHI Assembly Room) and the Integration Project Meeting (1:00 p.m. in Richland Washington, at 3350 George Washington Way, BHI Assembly Room). Both meetings will have telephone conferencing capabilities for remote location participation (1-800-664-0771).

AGENDA

This meeting is being held to present the status of the Groundwater/Vadose Zone Integration Project Specification and Long Range Plan and to help capture and frame questions that need to be addressed to support implementation of the Plan. It is anticipated that some of the questions will have a direct relation to the plan, or indirect relation on reaching endpoints or end state cleanup conditions for the Hanford Site. The path forward for the Integration Project requires combined support from the Regulators, stakeholders, Tribal Nations and the Hanford Site Projects. Based on the outcome of this meeting, recommendations for the need, timing and subject of specific workshops for the Integration Project will be discussed. The specific objectives of the meeting are:

- Provide the background and status for the GW/VZ Project
- Solicit questions and issues from the participants relative to the GW/VZ Project
- Have the participants consolidate, clarify and prioritize the input
- Develop a path forward for addressing the high priority items via integration teams

The draft Project Specification and Long Range Plan will be utilized as the basis for these discussions. A summary of these documents will be provided at the meeting for those who have not had an opportunity to review the information.

8:00 AM	Introductions/Purpose/Objectives
8:30 AM	Summary and Status of GW/VZ Project
10:00 AM	<i>Break</i>
10:15 AM	Solicitation of Questions and Issues
12:00 AM	<i>Lunch Break</i>
1:00 PM	Assign Breakout Groups to consolidate and prioritize questions and issues
2:30 PM	<i>Break</i>
2:45 PM	Review Breakout Group outputs and establish path forward
4:00 PM	Adjourn

MICHAEL J. GRAHAM - VIEWGRAPHS

Purpose of the Meeting

- Review Hanford Site baseline assumptions
- Review GW/VZ Project status and assumptions
- Solicit inputs and perspectives GW/VZ approach
- Understand inputs and perspectives
- Determine high priority issues that can be addressed
- Layout path forward to address the issues
- Obtain commitment from participants to support path forward

- Not to obtain specific comments on Project Specification/LRP
- Not to make decisions
- Not to judge or challenge individual perspectives
- Not to impact ongoing project specific needs/activities

Baseline Assumptions* for End of Current Mission (~2045)

- 100 Area
 - Waste sites, contaminated surplus facilities and reactors have been removed
 - Clean construction debris disposed in place
 - Groundwater is being monitored

- 300/400 Area
 - Waste sites, and contaminated facilities have been removed
 - Some non-contaminated facilities being utilized by others
 - Groundwater is being monitored

- 200 Area
 - 4 to 5 M cubic yards of Low Level Waste in ER Disposal Facility closed with barriers
 - Solid waste burial grounds closed with barriers
 - Burial ground of 100+ sub reactors closed with barriers
 - US Ecology closed with barriers
 - Reactor blocks disposed and covered with barriers
 - 700+ Waste Sites disposed in place with barriers (includes pre 1970 TRU)
 - 5 Canyon facilities disposed in place with barriers
 - 149 SST disposed in place with barriers
 - 28 DST disposed in place with barriers
 - Tank farm waste sites disposed in place with barriers
 - Immobilized Low Activity Waste disposed with barriers
 - Other major facilities (vitrification plant, canister storage)?
 - Groundwater is being monitored

*NOTE: These assumptions have been developed to support the lifecycle cost estimates for cleanup of the Hanford Site. Most of them are not supported by regulatory decisions and numerous cleanup alternatives will be evaluated prior to interim and final cleanup decisions.

Objectives of GW/VZ Project

- Develop an applied science program to meet Hanford characterization and assessment needs in support of cleanup and site closure
- Establish a strong and effective independent technical review process that ensures timely closure of technical issues
- Implement an open and inclusive project involvement process that provides meaningful and acceptable ways for the regulators, Tribal Nations, stakeholders and public to be involved in the Project.
- Establish a consistent and integrated approach characterization/assessment for all Hanford Projects for the understanding of the Hanford contamination inventory and source terms, groundwater and vadose zone flow and transport pathways and processes, and the mechanisms for transport through the Columbia River
- Develop a capability for assessing impacts from all Hanford Site wastes on the environment, people and their cultures (System Assessment Capability)

GW/VZ Project Status

- Draft Project Specification and Long Range Plan issued for comment
- System Assessment Capability has completed initial review of requirements and initiated work development of candidate and study sets
- Draft Science and Technology Plan and Roadmap issued for comment
- TWRS initiating development of vadose zone characterization plan
- ER 200 Area developing characterization plans

- ILAW Performance Assessment, Retrieval/Performance Evaluation, Solid Waste Performance Assessment, Canyon/Disposition Initiative Performance Assessment, ER Risk Assessments in various stages of development

GW/VZ Project Assumptions

- Assessment of cumulative impacts is necessary to support Hanford Site cleanup decisions
- The system assessment capability will be the tools/mechanism used to assess the cumulative impacts
- The regulatory framework for the cleanup can be further integrated

DOUG SHERWOOD - VIEW GRAPHS

Vadose Zone Characterization

- Need better techniques to evaluate nature and extent of contamination
- Evaluate physical and chemical properties of unsaturated soil
- Reduce future characterization costs

Remediation Challenges

- Isolate Contaminants in the Vadose Zone above Groundwater
 1. Prevent moisture infiltration
 2. Control chemical environment to reduce mobility
 3. Destroy complexants
 4. Waste specific solutions may be required

Assessment of Risk

- Develop consensus tools for fate and transport analysis
- Develop consensus direct contact, site intruder, and institutional control parameters
- Surface barrier and remedy performance for deep contamination

Questions Raised by Future Site Uses Working Group (FSUWG) Options

- What risk assessment scenario to use to assess future use?
- How to set acceptable scenarios for groundwater containment and protection?
- Who do these scenarios mean for existing and future required uses?

Facilitation of Cleanup at Hanford

- Disposition of Highly Radioactive Debris and Waste Material
 - Debris and failed equipment
 - Long length equipment from single-shell tanks
 - Other high activity waste from D&D

Areas of HAB Focus This Year

- Future Site Uses Working Group - Recommendations and Options for 200 Area Future Use:
 - Facilitate cleanup of near river areas
 - Store, treat and dispose of on-site wastes

- Contain groundwater contamination
- Compatible commercial/industrial uses

ISSUES AND QUESTIONS RAISED IN BRAINSTORMING SESSION

Public Involvement

- How do we get public and board engaged on these Public Involvement issues? (Public and Tribes need to be involved)

Decision Making

- We talk about decision/decision makers, how many decision makers are there? What information do they want?
- What happens when you get to a decision point and not all the information is available?
- How do we reach consensus on what is acceptable closure?
 - What do we want to achieve?
 - What are acceptable impacts?
 - Will there be standards developed for each decision maker?
 - How do we use uncertainty in making decisions?
- Which decisions does the GW/VZ need to make? Who are the decision makers and what information do the decision makers need?
- Which decisions need cumulative assessment?

Operations and Interim Actions

- Continue work on interim measures, even though you don't have all the information you would like.
- How best can the project influence others to action?
- What actions (interim or final) can the GW/VZ Project influence to support protection of the water resources?

Integration

- Assumptions need configuration control (cc), also needed for data.
- We need to be integrated with PHMC and RL.
- What are the integration opportunities we need to act on now?
- Use existing work and data (get those that worked on the liquid effluent study -- get them involved).
- Should not assume intermediate state per this mission is the same as the "end state."
- Is the risk of residual waste which may be left behind $>10^{-5}$?
- SAC Model:
 - Compliance point
 - Receptor
 - Land use
 - Inventory
- Do we treat all waste sites individually or as aggregate?

Policy

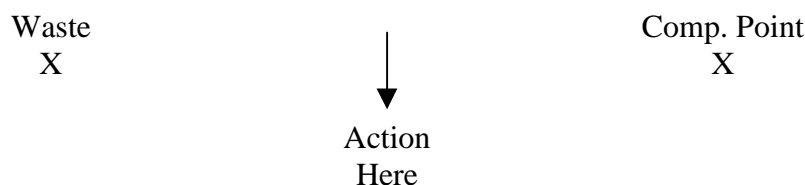
- Are there alternative baseline assumptions?
- ER Committee wants to take the lead on some of the issues presented by EPA (Doug Sherwood).
- There will be a document (Revision of WHC-EP-0826, Rev. 1) which will soon be published that will address:
 - Time
 - Point of Compliance
 - Etc.
- Better context for cost and "assumptions" -- strong sensitivity.
- Congressional commitment to long term stewardship.
- Closure criteria needs to be resolved.
 - End state
 - Spatial scale
 - Land use

System Assessment Capability

- Different visions of SAC
- Issues from intro and status brief
- CRE document comments (Doug Hildebrand w/Dirk Dunning)
- High level look at the site (existing knowledge of inventory, data, comprehensive inputs/numbers)

Regulatory

- Points of compliance
- When you decide point of compliance -- you also need action level.



- Timing for decision making ER sites vs. Tank Farms (can't look at these separately).
- Who owns the assumptions (who decides which assumptions to use)?
- Where are the base assumptions documented?
- Need to understand all assumptions and verify as many as possible. Remainder goes on to decision making.
- Regulatory Pathway Process:
 - Can we find or come to decision on set of regulations?
 - Can we standardize on most or all decisions?
- Should the SAC be put into the framework of the TPA (should it have milestones)?

Science and Technology

- Barriers
 - Consensus does not equal good science.
 - Institutional controls (needs to be able to demonstrate they can be sustained).
 - Design of barriers must account for understanding of conditions and that they will perform as intended (i.e. recognition of lateral movement of water through the soil under the barrier, intrusion of animals, plants and people through the barrier, inter-relationships with barriers and other structures nearby).

BREAKOUT SESSION REPORTS**System Assessment Capability**

- What do we know? When? What don't we know (and consequences)?
- What should each iteration do?
 - Incorporate new data (e.g. boreholes).
 - Refine assessment and models with existing data.
 - Reduce uncertainty more (and handle it better).
 - Actually direct data collection (influence DQOs, etc.).
 - Add more chemicals/more effects/etc. for consideration in SAC? Add more tools?
- Uncertainty:
 - How to model it (numerically)?
 - How much can be tolerated?
 - Overall
 - In each "module"
 - How to describe it at a systems level -- tell us what conc., where, and when?
- Questions for model:
 - Resolution, scale, points, areas?
 - Figure out what "fidelity" means.
 - Does this change between iterations? What does change between iterations?
 - Are there rules for changing scales, etc. (using surrogates, etc.)?
- Different visions of SAC:
 - How many "levels"?
 - Forecast of near-term and longer-term impacts.
 - What is the SAC?
 - What "products"?
 - A toolbox
 - Code consensus
 - Big model
 - No Model
 - Models
 - Info
- What info is needed?

- Must "enable" products to do what?
 - Choose between tech. Options?
 - Coordinate; integrate among themselves.
- Must take a cumulative site-wide approach. (Why?)
- Goal or link:
 - Single GW model?
 - 3D Subsurface model?
- Action Items:
 - Identify SAC issues.
 - Prioritize SAC issues.
 - Strawman list by February 24th
 - Overall process
 - Candid/study sets
 - Issues (by type):
 - Key decisions or decision types; define data on which decision will be based.
 - Technical (scales, etc.)
 - Larger context at Hanford
 - Assumptions (technical, regulatory, etc.)
 - Future "waste" configuration possibilities/alternatives
 - Match scale of decision with resolution of data (e.g. site-wide/project/site)
 - Can "crude" results be accurate and meaningful
 - Match info precision and delivery date to already scheduled decision points
- CRE Document
 - Product: Effects Requirements
 - General categories
 - Specific
 - Why does the SAC have to provide cumulative, site-wide results?
 - Allocate environmental "burdens" among source terms? (i.e. core projects)
 - Prioritize, sequence?
 - Harmonize regulatory Drivers?
 - Inform (who?) about the whole story
 - Influence TPA as appropriate, and the budget, Integrated Priority List, etc.
 - "Integrate" assessments, Performance Assessments, etc.
 - Consistency
 - Place where cumulative effects are visible

Decision/Policy/Regulatory (Combined from Both Breakout Groups on this Topic)

- What does waste management for the foreseeable future mean (the values)?
 - Interim acceptable criteria for assessments that lead to actions in near-term (e.g. risk)
- Reach a minimum agreement
- Regulatory framework enhancements
- If we get to a risk below 10^{-5} , does that constitute "acceptable risk"?

- What is "acceptable" exposure scenario? Hanford Advisory Board/Future Site Uses Waste Group? (HAB/FSUWG)
 - Regulators develop scenarios to present to Public/Interest Groups/Tribes or reconvene FSUWG.
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PATH FORWARD

- SAC Workgroup
- Regulatory Workgroup
- Take to HAB
 - Exposure scenarios
 - Land use and planning
 - Go to ER Committee first -- Maybe Waste Management Board
 - Need to refine before going to HAB
- Regulators lead Regulator sub-group of Policy Team
- Concern that Sac Working Group will not have adequate Policy support.
- SAC Working Group needs long-term approach.

ATTENDEE LIST

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